About Your Monitor

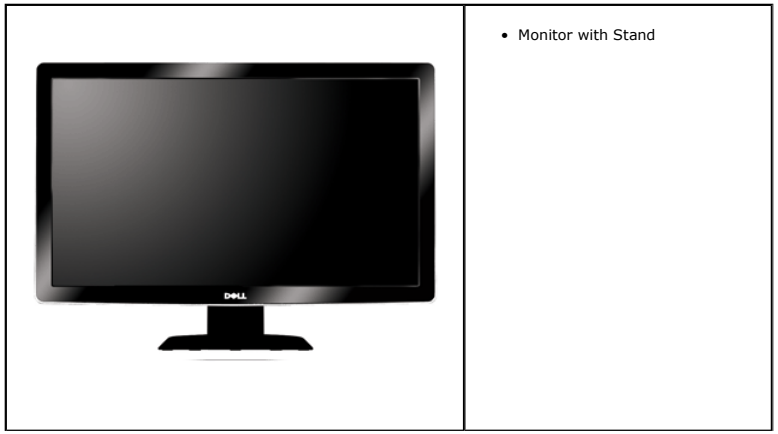
Dell™ ST2210/ST2310/ST2410 Flat Panel Monitor User's Guide

- Package Contents
- Product Features
- Identifying Parts and Controls
- Monitor Specifications
- Plug and Play Capability
- LCD Monitor Quality & Pixel Policy
- Maintenance Guidelines

Package Contents

Your monitor ships with the components shown below. Ensure that you have received all the components and contact Dell if something is missing.

NOTE: Some items may be optional and may not ship with your Monitor. Some features or media may not be available in certain countries.



- Monitor with Stand

	• Power Cable
	• VGA Cable
	• Safety Information • *Drivers and Documentation* media • *Quick Setup Guide*

Product Features

The **ST2210/ST2310/ST2410** flat panel display has an active matrix, Thin-Film Transistor (TFT), and Liquid Crystal Display (LCD). The monitor features include:

- **ST2210:** 21.5-inch (546.8 mm) viewable area display.
- **ST2310:** 23-inch (584.2 mm) viewable area display.
- **ST2410:** 24-inch (609.6 mm) viewable area display.
- 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- Tilt adjustment capability.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimization.
- Software and documentation CD which includes an information file (INF), Image Color Matching File (ICM), and product documentation.
- Energy Saver feature for Energy Star compliance.
- Security lock slot.

Identifying Parts and Features

Front View

Front View

Front Panel Controls

Label	Description
1-2	Shortcut keys *The default settings are Preset Modes and Brightness/Contrast. **1** Preset Modes **2** Brightness/Contrast
3	OSD menu select
4	EXIT
5	Power button (with power light indicator)

Back View

Back View

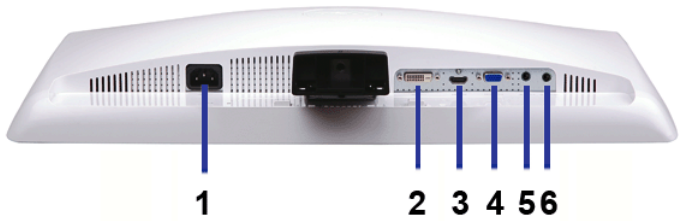
	Label	Description/Use
1	Barcode serial number label	To contact Dell for technical support.
2	Security lock slot	To help secure your monitor.
3	Dell Soundbar mounting brackets	To attach the optional Dell Soundbar.
4	Regulatory rating label	Lists the regulatory approvals.

Side View

Right Side

Left Side

Bottom View



Bottom view

Label	Description
1	AC power cord connector
2	DVI connector
3	HDMI connector
4	VGA connector
5	Audio Line-in
6	Audio Line out

Monitor Specifications

Power Management Modes

If you have VESA's DPMS™ compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. This is referred to as Power Save Mode. If input from a keyboard, mouse or other input devices is detected by the computer, the monitor will automatically "wake up". The following table shows the power consumption and signaling of this automatic power-saving feature:

ST2210

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	28 W (maximum) 19 W (typical)
Active-off mode	Inactive	Inactive	Blanked	Amber	Less than 1 W
Switch off	-	-	-	Off	Less than 0.5 W

ST2310

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	30 W (maximum) 22.5 W (typical)

Active-off mode	Inactive	Inactive	Blanked	Amber	Less than 1 W
Switch off	-	-	-	Off	Less than 0.5 W

ST2410

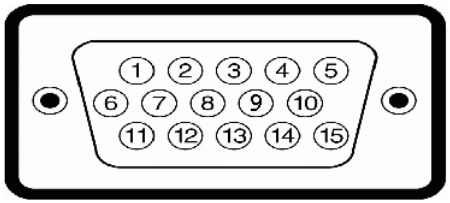
VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	30 W (maximum) 23 W (typical)
Active-off mode	Inactive	Inactive	Blanked	Amber	Less than 1 W
Switch off	-	-	-	Off	Less than 0.5 W

NOTE: This monitor is ENERGY STAR®-compliant.

NOTE: Zero power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.

Pin Assignments

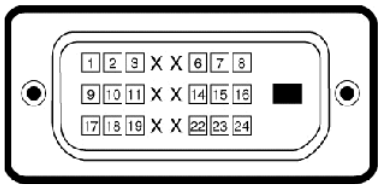
VGA Connector



Pin Number	15-pin Side of the Connected Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	GND

5	Self-test
6	GND-R
7	GND-G
8	GND-B
9	Computer 5V/3.3V
10	GND-sync
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

DVI Connector



Pin Number	24-pin Side of the Connected Signal Cable
1	TMDS RX2-
2	TMDS RX2+
3	TMDS Ground
4	Floating
5	Floating
6	DDC Clock
7	DDC Data
8	Floating
9	TMDS RX1-

10	TMDS RX1+
11	TMDS Ground
12	Floating
13	Floating
14	+5V power
15	Self test
16	Hot Plug Detect
17	TMDS RX0-
18	TMDS RX0+
19	TMDS Ground
20	Floating
21	Floating
22	TMDS Ground
23	TMDS Clock+
24	TMDS Clock-

HDMI Connector

Pin Number	**19-pin Side of the Connected Signal Cable**
1	TMDS DATA 2+
2	TMDS DATA 2 SHIELD
3	TMDS DATA 2-
4	TMDS DATA 1+
5	TMDS DATA 1 SHIELD
6	TMDS DATA 1-
7	TMDS DATA 0+
8	TMDS DATA 0 SHIELD
9	TMDS DATA 0-
10	TMDS CLOCK
11	TMDS CLOCK SHIELD

12	TMDS CLOCK-
13	CEC
14	Reserved (N.C. on device)
15	DDC CLOCK (SCL)
16	DDC DATA (SDA)
17	DDC/CEC Ground
18	+5V POWER
19	HOT PLUG DETECT

Flat Panel Specifications

Model	**ST2210**	**ST2310**	**ST2410**
Screen type	Active matrix - TFT LCD	Active matrix - TFT LCD	Active matrix - TFT LCD
Panel type	TN	TN	TN
Screen dimensions	21.5 inches (21.5-inch viewable image size)	23 inches (23-inch viewable image size)	24 inches (24-inch viewable image size)
Preset display area: Horizontal Vertical	 476.64 mm (18.76 inches) 268.11 mm (10.56 inches)	 509.18 mm (20.05 inches) 286.41 mm (11.28 inches)	 531.36 mm (20.92 inches) 298.89 mm (11.77 inches)
Pixel pitch	0.248 mm	0.266 mm	0.277 mm
Viewing angle	160° (vertical) typical, 160° (horizontal) typical	160° (vertical) typical, 160° (horizontal) typical	160° (vertical) typical, 170° (horizontal) typical
Luminance output	250 CD/m ²(typical)	250 CD/m ²(typical)	250 CD/m ²(typical)
Dymanic contrast ratio	50,000 to 1 (typical)	50,000 to 1 (typical)	50,000 to 1 (typical)
Faceplate coating	Antiglare with hard-coating 3H	Antiglare with hard-coating 3H	Antiglare with hard-coating 3H
Backlight	2 CCFLs edgelight system	2 CCFLs edgelight system	2 CCFLs edgelight system
Response Time	5 ms typical	5 ms typical	5 ms typical
Color Depth	16.7 mil colors	16.7 mil colors	16.7 mil colors
Color Gamut	85 %*	85 %*	85 %*

* ST2210/ST2310/ST2410 Color Gamut (Typical) is based on CIE1976 (85%) and CIE1931 (72%).

Resolution

Model	ST2210/ST2310/ST2410
Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 76 Hz (automatic)
Maximum preset resolution	1920 x 1080 at 60 Hz

Video Supported Modes

Model	ST2210/ST2310/ST2410
Video display capabilities (HDMI playback)	480i/480p/576i/576p/720p/1080i/1080p

Preset Display Modes

ST2210/ST2310/ST2410

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/Vertical)
VGA, 720 x 400	31.469	70.087	28.3	-/+
VGA, 640 x 480	31.469	59.940	25.2	-/-
VGA, 640 x 480	37.500	75.000	31.5	-/-
VESA, 800 x 600	37.879	60.317	40.0	+/+
VESA, 800 x 600	46.875	75.000	49.5	+/+
VESA, 1024 x 768	48.363	60.004	65.0	-/-
VESA, 1024 x 768	60.023	75.029	78.8	+/+
VESA. 1152 x 864	67.500	75.000	108.0	+/+
VESA, 1280 x 1024	64.000	60.000	108.0	+/+
VESA, 1280 x 1024	79.976	75.025	135.0	+/+
VESA, 1920 x 1080	67.500	60.000	148.5	+/+

Electrical

Model	ST2210/ST2310/ST2410
Video input signals	Analog RGB, 0.7 Volts +/- 5%, positive polarity at 75 ohm input impedance Digital DVI-D TMDS, 600mV for each differential line, positive polarity at 50 ohm input impedance HDMI, 600mV for each differential line, 100 ohm input impedance per differential pair
Synchronization input signals	Separate horizontal and vertical synchronizations, polarity-free TTL level, SOG (Composite SYNC on green)
AC input voltage/frequency/current	100 to 240 VAC/50 or 60 Hz ± 3 Hz/2.0A (Max.)
Inrush iso surge current	120 V: 30 A (Max.) 240 V: 60 A (Max.)

Physical Characteristics

Model	ST2210	ST2310	ST2410
Connector type	• D-sub: Blue connector • DVI-D: White connector • HDMI	• D-sub: Blue connector • DVI-D: White connector • HDMI	• D-sub: Blue connector • DVI-D: White connector • HDMI
Signal cable type	• D-sub: Detachable, Analog, 15 pin, shipped attached to the monitor • DVI-D • HDMI	• D-sub: Detachable, Analog, 15 pin, shipped attached to the monitor • DVI-D • HDMI	• D-sub: Detachable, Analog, 15 pin, shipped attached to the monitor • DVI-D • HDMI
Dimensions (with stand)			
Height	383.55 mm (15.10 inches)	403.15 mm (15.87 inches)	413.79 mm (16.29 inches)
Width	530.97 mm (20.90 inches)	563.52 mm (22.19 inches)	584.86 mm (23.03 inches)
Depth	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)
Dimensions (without stand)			
Height	321.69 mm (12.66 inches)	341.03 mm (13.43 inches)	352.51 mm (13.88 inches)
Width	530.97 mm (20.90 inches)	563.52 mm (22.19 inches)	584.86 mm (23.03 inches)
Depth	81.74 mm (3.22 inches)	84.24 mm (3.32 inches)	84.24 mm (3.32 inches)
Stand dimensions			
Height	129.70 mm (5.11 inches)	129.70 mm (5.11 inches)	129.70 mm (5.11 inches)
Width	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)
Depth	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)	217.00 mm (8.54 inches)

Weight			
Weight with packaging	5.86 kg (12.92 lb)	7.1 kg (15.64 lb)	6.78 kg (14.95 lb)
Weight with stand assembly and cables	4.89 kg (10.78 lb)	5.84 kg (12.86 lb)	5.54 kg (12.22 lb)
Weight without stand assembly (for wall mount or VESA mount considerations - no cables)	3.93 kg (8.66 lb)	4.83 kg (10.63 lb)	4.58 kg (10.1 lb)
Weight of stand assembly	0.70 kg (1.54 lb)	0.70 kg (1.54 lb)	0.70 kg (1.54 lb)

Environmental

Model	**ST2210**	**ST2310**	**ST2410**
Temperature			
Operating	0° to 40° C (32° to 104°F)	0° to 40° C (32° to 104°F)	0° to 40° C (32° to 104°F)
Non-operating	Storage: -20° to 60° C (-4° to 140° F) Shipping: -20° to 60° C (-4° to 140° F)	Storage: -20° to 60° C (-4° to 140° F) Shipping: -20° to 60° C (-4° to 140° F)	Storage: -20° to 60° C (-4° to 140° F) Shipping: -20° to 60° C (-4° to 140° F)
Humidity			
Operating	10% to 80% (non-condensing)	10% to 80% (non-condensing)	10% to 80% (non-condensing)
Non-operating	Storage: 5% to 90% (non-condensing) Shipping: 5% to 90% (non-condensing)	Storage: 5% to 90% (non-condensing) Shipping: 5% to 90% (non-condensing)	Storage: 5% to 90% (non-condensing) Shipping: 5% to 90% (non-condensing)
Altitude			
Operating	4,485 m (14,700 ft) max	4,485 m (14,700 ft) max	4,485 m (14,700 ft) max
Non-operating	12,191 m (40,000 ft) max	12,191 m (40,000 ft) max	12,191 m (40,000 ft) max
Thermal dissipation	95.56 BTU/hour (maximum) 64.85 BTU/hour (typical)	102.36 BTU/hour (maximum) 76.77 BTU/hour (typical)	102.39 BTU/hour (maximum) 78.48 BTU/hour (typical)

Plug and Play Capability

You can install the monitor in any Plug and Play-compatible system. The monitor automatically provides the computer system with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so that the system can configure itself and optimize the monitor settings. If required, the user can select different settings, but in most cases monitor installation is automatic.

LCD Monitor Quality & Pixel Policy

During the LCD Monitor manufacturing process, it is not uncommon for one or more pixels to become fixed in an unchanging state. The visible result is a fixed pixel that appears as an extremely tiny dark or bright discolored spot. When the pixel remains permanently lit, it is known as a "bright dot." When the pixel remains black, it is known as a "dark dot."
In almost every case, these fixed pixels are hard to see and do not detract from display quality or usability. A display with 1 to 5 fixed pixels is considered normal and within competitive standards. For more information, see Dell Support site at: **support.dell.com**.

Maintenance Guidelines

Caring for Your Monitor

CAUTION: Read and follow the Safety Instructions before cleaning the monitor.

CAUTION: Before cleaning the monitor, unplug the monitor from the electrical outlet.

For best practices, follow the instructions in the list below while unpacking, cleaning, or handling your monitor:

- To clean your antistatic screen, lightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the antistatic coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.
- Use a lightly-dampened, warm cloth to clean the monitor. Avoid using detergent of any kind as some detergents leave a milky film on the monitor.
- If you notice a white powder when you unpack your monitor, wipe it off with a cloth.
- Handle your monitor with care as dark-colored monitors may scratch and show white scuff marks more than lighter-colored monitors.
- To help maintain the best image quality on your monitor, use a dynamically changing screen saver and turn off your monitor when not in use.

Back to Contents Page

Support Home Page

Shop
Why Buy Dell?
Laptops
Desktops
Electronics & Software
Printers & Ink
HDTVs & Home Theater

Support
Drivers and Downloads
Product Support
Support by Topic
Warranty Information
Parts and Upgrades
Premium Services

Community
Join the Discussion
Share Your Ideas
Read our Blog
Ratings & Reviews
Community Home

Company Information
About Dell
Corporate Responsibility
Careers
Investors
Newsroom

My Account
Sign-in / Register
Order Status
Saved Carts
Order Support
Make a Payment

Laptops | Desktops | Business Laptops | Business Desktops | Workstations | Servers | Storage | Services | Monitors | Printers | LCD TVs | Electronics
© 2012 Dell | About Dell | Terms of Sale | Unresolved Issues | Privacy | About Our Ads and Emails | Dell Recycling | Contact | Site Map | Visit ID | Feedback
Large Text

Offers subject to change, not combinable with all other offers. Taxes, shipping, handling and other fees apply. U.S. Dell Home and Home Office new purchases only. Dell reserves the right to cancel orders arising from pricing or other errors.

snWEB2